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VIA ELECTRONIC FILING

November 19, 2018

Ms. Elizabeth A. Rolando, Chief Clerk
Illinois Commerce Commission
527 E. Capitol Avenue
Springfield, IL 62701

Re: 18-NOI-01: Notice of Inquiry Regarding Electric Vehicles – Reply Comments

Dear Clerk Rolando,

Attached for electronic filing in the above-referenced matter, please find reply comments on behalf of ChargePoint, Inc., in response to the Notice of Inquiry issued on September 24, 2018 and initial comments submitted on October 23, 2018. Please let me know if you have any questions.

Respectfully,

Kevin George Miller
Director, Public Policy
ChargePoint

Introduction

ChargePoint is the nation's leading electric vehicle (EV) charging network, with charging solutions for every charging need and all the places EV drivers go: at home, work, around town and on the road. With more than 57,000 independently-owned charging spots, ChargePoint drivers have completed more than 46 million charging sessions, saving upwards of 45 million gallons of gasoline and driving more than 1.1 billion gas-free miles. More than 1,300 of our charging spots are deployed in Illinois.

We design, develop, and deploy residential and commercial AC Level 2 (L2) and DC fast charging (DCFC) electric vehicle charging stations, as well as cloud-based software applications, data analytics, and related customer and driver services aimed at creating a robust, scalable, and grid-friendly EV charging ecosystem.

ChargePoint sells EV charging supply equipment (EVSE) and network services that enable owners and operators of EVSE to provide charging services. In almost every case, ChargePoint does not own or operate the equipment. ChargePoint sells charging solutions to a wide variety of customers, including residential EV owners, employers, commercial and industrial businesses, cities and public agencies, ports, schools, public transit, delivery truck fleet operators, and multi-unit dwelling owners. ChargePoint offers a broad array of products and services that can serve light, medium or heavy-duty electric vehicles.

The site host network services offered by ChargePoint enable customers to manage their charging infrastructure using cloud-based software tools. These tools provide the station owner or operator with everything needed to manage and optimize utilization of their charging stations, including online management tools for data analysis, billing and payment processing, load management and access control. Stations connect to ChargePoint over a secure, cellular data network (or Wi-Fi in the case of single-family residential) allowing station owners to manage all their charging operations from a single dashboard. Maintenance and customer service are a priority for our company. ChargePoint offers a comprehensive set of support services, including: a 24/7/365 hotline for station users, parts and labor warranty, site qualification, installation and validation services, and a helpline for site host specific questions.

Reply Comments

I. The Commission should consider the full range of costs and benefits when considering whether, and how, to expand the role for regulated utilities in Illinois' EV and EVSE markets.

A. Transportation electrification can create net benefits to ratepayers and society

Stakeholder positions diverged sharply on whether it would be appropriate for utilities to actively support transportation electrification in Illinois. Positions on this fundamental issue were largely predicated on whether a stakeholder acknowledged that transportation electrification can create widespread benefits to ratepayers and society.

A small minority of stakeholders opposed any role for regulated utilities in the EV and EV charging markets. Americans for Prosperity (AFP) asserted that ratepayer investments in transportation electrification would "predominately, if not exclusively, benefit only a subset of (mostly affluent) customers,"[1] and the American Petroleum Institute (API) asserted that consumers "should not be forced to pay more in…electric utility rates so that someone else can purchase and operate an expensive electric vehicle."[2] Were either of these perspectives based in fact or reality, it would indeed be inappropriate for utilities to play a role in EV charging. However, these assertions brazenly rely on a cost-benefit analysis that explicitly ignores all of the "benefits".

The majority of stakeholders agreed that there are, in fact, many appropriate roles for regulated utilities in Illinois' EV and EV charging markets. While stakeholders differed significantly about the nature of those appropriate roles, there was broad consensus that **both** the costs **and** the benefits of transportation electrification should be considered. Comments identified billions of dollars in cost savings and widespread benefits to ratepayers, drivers, riders, and non-program participants[3] when the new load associated with EVs is appropriately incorporated into the grid.[4] ChargePoint supports such holistic analyses and encourages the Commission to consider the wide range of energy, economic, environmental, and ratepayer benefits, associated with transportation electrification in addition to the costs of any program

B. EV charging augments numerous business and operating models.

Transportation electrification is transforming the refueling ecosystem in Illinois by providing new answers to "where," "when," and "how long" refueling takes place. Tesla identified its philosophy as "Charge Where You Park", meaning that drivers are best served when charging their EVs "at home, work, around town where people shop and dine, and along highway corridors".[5] As we describe in our initial comments, this new refueling paradigm expands the types of locations that typically host refueling services (e.g., gas stations) to include homes, workplaces, and public destinations such as retail centers, grocery stores, town centers, movie theaters, stadiums, and more. Non-residential locations have existing operating and business models that can be augmented by, while not relying exclusively on, the provision of EV charging services.[6]

As noted by the Office of the Attorney General (OAG), "private investors are bringing a wide range of approaches" and "various business models" to EV charging.[7] The EV charging

[1] AFP at 1.
[2] API at 1.
[3] See e.g., ComEd at 1-3; Ameren at 1; Office of the Attorney Genereal (OAG) at 6; Chicago Area Clean Cities at 3; Tesla at 3-4; Sierra Club and NRDC (SC-NRDC) at 2-6; Environmental Defense Fund and Illinois Citizen's Utility Board (EDF-CUB) at 2; Union of Concerned Scientists (UCS) at 2-5; Siemens at 3; Alliance for Transportation Electrification (ATE) at 8-10;
[4] See e.g. EDF-CUB at 1-2; SC-NRDC at 6-7; Metropolitan Mayors Caucus (MMC) at 4.
[5] Tesla at 4
[6] ChargePoint Initial Comments at 15.
[7] OAG at 12.

market has grown significantly over the last ten years, both in terms of market size and number of participants, largely as a result of this paradigm shift in refueling business models.

Some stakeholders question the viability of EV charging business/operating models due to the existence of capital, operating, and regulatory market barriers. For example, SC-NRDC and ATE assert that the successful deployment of EVSE hinges primarily on utilization[8]. We agree that predictable and increasing utilization is valuable for a number of reasons. However, this characterization considers neither the variety of reasons for site hosts to provide EV charging services nor the full value stream thereof. Indirect value streams are as central to EV charging as popcorn and candy are to movie theaters, or coffee and fast food for gasoline stations. Furthermore, employers seek to provide benefits to attract and retain employees, apartments provide amenities to attract tenants, local governments seek to support sustainability and/or economic development goals, etc.

It should be note that low utilization is a more acute challenge for DC fast charging stations. The combination of low utilization and traditional, demand-based rate structures can undermine the economics of DC fast charging in the early phases of EV adoption. As we discuss below, however, this acute economic challenge can be addressed by aligning electricity rates with their end use and avoiding inadvertent penalization of site hosts for low utilization.

As Illinois considers how to overcome barriers like demand charges for DC fast charging, we encourage the Commission to consider the full range of EV charging business and operating models to avoid outcomes that may limit the flexibility of setting pricing to the driver or inadvertently disincentivize non-utility investment.

C. Electric rates should account for the unique characteristics of EV charging

Stakeholders consistently identified the need to address and mitigate the impact of traditional, demand-based electricity rate structures for DC fast charging stations. EVgo identified that "[c]urrent commercial rate structures were not designed with electric vehicles' unique load profiles"[9] in mind, and Tesla noted that the resulting "demand charges can account for up to 90% of a station's monthly electricity bill."[10]

Ameren identified that it "has used a 'rate limiter' in the past during difficult transitions, where the average cost equivalent of a customer's demand charges were limited to no more than a set center/kWh value. The limiter can be raised over time, perhaps increased in steady increments until it is no longer applicable after five or ten years."[11] We support Ameren's suggestion to explore the rate limiter, and also suggested a number of other mechanisms to mitigate demand charges in our initial comments.[12]

[8] SC-NRDC at 10 and ATE at 13
[9] EVgo at 2
[10] Tesla at 16
[11] Ameren at 23
[12] ChargePoint at 8

D. Maintaining fair market competition and supporting innovation in EV charging equipment and services are critical to the success of Illinois' EV and EVSE markets

Stakeholders largely agree in the need to maintain an innovative and competitive EV charging market in Illinois. Tesla noted that "competition can help improve customer access to charging, charging network reliability, and ultimately provide EV owners with a great user experience."[13] The needs of drivers, riders, site hosts, and utilities with regard to EVs and the associated charging solutions are continually evolving, and healthy market competition ensures that products and services are responsive to those needs.

Existing, and otherwise appropriate, regulatory requirements can unintentionally restrict innovation and competition in Illinois' EV charging market. EV-Only TOU rates can support the creation of widespread grid benefits without putting the customer's whole house energy usage "on the hook". However, the implementation of EV-Only TOU rates traditionally requires the installation of an additional utility meter, which is expensive and depresses enrollment in EV-Only TOU rates.

In our Initial Comments, we identified how Minnesota and Vermont are exploring alternatives to installing a new "under the glass bulb" meter on a per circuit level for the accurate and reliable implementation of EV-Only TOU rates.[14] Ameren also noted that:

> "Technology appears to be emerging that would allow reasonable estimation of usage by each appliance within the premises. Utility-grade metering would still measure usage at the premises, but pricing of the usage could be split between "normal" and EV use. Customers could then choose to place their EV use on a time-variant rate while retaining non-time variant pricing for the rest of the premises."[15]

The breadth of functional differentiation of EV charging equipment and services is a core strength of the EVSE market. Siemens noted that they "expect EVSEs to continue to have diverse features, so customers should have the ability to choose from a range of utility-qualified products."[16] ChargePoint strongly agrees that customers should have choice of both EV charging equipment and the EV charging network service that provides the underlying features and interaction that customers desire. This is especially true when ratepayer dollars are involved. As we noted in our initial comments:

> a thriving competitive market that offers a wide variety of innovative products at competitive prices depends on a site-host's ability to choose the right product. By contrast, utility programs that rely on procurement of EVSE through a request for proposal (RFP) process can actively hinder innovation and competition in the

[13] Tesla at 13
[14] ChargePoint Initial Comments at 6-7
[15] Ameren at 20
[16] Siemens at 5.

> market. When a utility procures a "one-size, fits-all" option through an RFP that results in one single hardware or network offering, there is only one opportunity for competition – the RFP – and little incentive for innovation because EVSE vendors must design products to meet the specifications of the utility RFP rather than site-hosts' and drivers' needs. However, RFP processes can be supportive of continued market innovation if they are used to pre-qualify multiple hardware and network service options based on minimum functional criteria. This ensures that charging solutions meet minimum specifications without picking winners and losers.[17]

E. Expanding the role for regulated utilities in EV charging can have a positive or negative impact on ratepayers and transportation electrification in Illinois

The initial comments presented contrasting views on expanding the role for utilities in the competitive EV charging market. Several commenters suggest that any and all ratepayer investment in EV charging equipment and services is prudent, and others emphasized the risk thereof as an argument against an expanded role for utilities in the EV charging market. ChargePoint believes that expanding the role for regulated utilities in the competitive EV charging market can have either a positive or negative impact on ratepayers and transportation electrification in Illinois.

A number of stakeholders identified ownership of EVSE by regulated utilities as the essential end unto itself. ATE suggested that "[t]here is no persuasive reason to categorize [investments in EV charging] differently from other types of… [utility] investments," and Siemens suggested that utility ownership is necessary for EV owners and ratepayers to receive benefits from transportation electrification.[18] These positions are in the minority. ChargePoint respectfully urges the Commission to disregard such non-nuanced recommendations to focus exclusively on authorizing utility ownership at the exclusion of considering other factors. Context is key; as noted by ComEd, "utility ownership could assist with placement of charging stations in areas that are underserved."[19]

Most stakeholders identified a need to balance the potential benefits of ratepayer investments against potential risks and/or impacts. The Office of the Attorney General (OAG) states that "[a]ny utility role in EV charging stations must be considered against both the legal limitations on distribution utilities to provide *delivery* service and the inhibiting effect it could have on private investment."[20] The Environmental Defense Fund and Illinois Citizens Utility Board (EDF-CUB) note that "[u]tilities may have the information and resources to plan and deploy EV charging infrastructure in an organized, intentional manner, but allowing utilities to crowd out private competitors could have a chilling effect on private investment and

[17] ChargePoint at 13
[18] ATE at 16 and Siemens at 2
[19] ComEd at 10
[20] OAG at 7-8

innovation."[21] Tesla indicated support for "all investments in charging stations, including investment by utilities so long as their programs maintain a level playing field for all charging station provider participants."[22]

SC-NRDC observed that the "most salient issue" in terms of impacts on competition in the private EV charging market is pricing to drivers at utility-owned DC fast charging stations. As they explained, "[i]f the pricing is too low, private market entrants will not be able to compete on price; too high, and drivers will avoid the stations."[23] ChargePoint agrees and would urge the Commission to consider the need for site hosts, those entities providing the property and with which visitors are interacting with, to ultimately have control of driver pricing. In fact, utility ownership of charging stations does not have to come at the preclusion of site host choice in charging solution or control over pricing to driver. Successful utility EV charging programs, such as San Diego Gas & Electric's "Power Your Drive" and Pacific Gas & Electric's EV Charge Network in California, provide site hosts with choice in and control of EV charging equipment and network services even in the program segments where the utility provides the option of owning the station itself.

There are benefits and risks associated with spreading cost recovery of any utility program across broader ratepayer classes. However, those risks are not equally present across all types of investments or depending on how programs are implemented. We respectfully encourage the Commission not to focus on the question of <u>whether</u>, but <u>how</u>, to expand the role for regulated utilities in the competitive EV charging market.

II. The Commission should issue clear guidance on the role for regulated utilities in the competitive EV charging market and establish consistent criteria to evaluate utility proposals

A. Regulatory clarity is a critical next step

Stakeholders consistently recommended that the Commission issue clear guidance on appropriate roles for regulated utilities in the competitive EV charging market. ComEd identified the "the lack of certainty pertaining to the recovery of utility-owned EV infrastructure and charging stations is a regulatory barrier for utilities."[24] Several stakeholders also identify the need for a clear signal from the Commission on the appropriate roles for utilities and conditions under which cost recovery could be granted.[25] ChargePoint concurs and similarly requests that the Commission providing clear guidance and establish consistent, statewide criteria for evaluating utility EV charging proposals.

B. Commission-established criteria to evaluate utility EV charging programs should focus on outcomes and impact of programs

[21] EDF-CUB at 4
[22] Tesla at 13
[23] SC-NRDC at 15
[24] ComEd at 5
[25] e.g., SC-NRDC at 20; Tesla at 7; ATE at 14

While a few commenters suggest that utility ownership is a solution unto itself, most stakeholders identify the need to take a nuanced view of the barriers to greater EV adoption and the relative impacts of the different solutions. ChargePoint encourages the Commission to establish criteria for evaluating the impact of utility programs that consider the outcomes and impacts of an expanded role for utilities on the customer's side of the meter.

SC-NRDC succinctly explained the issue in observing that "there are pros and cons to different ownership models. Considerations should include standardization of driver experience, accountability for station maintenance, and site host choice in hardware and network services."[26] Tesla similarly noted that ownership of the charger "is not as relevant as providing access and customer choice as to the type of charging equipment that is utilized in a residential setting."[27] EDF-CUB noted that the "most appropriate means of incentivizing charging infrastructure requires extensive additional consideration."[28]

SC-NRDC suggested the following guidelines for utility programs, which are consistent with those that ChargePoint provided in our initial recommendations:

> "[A]ccelerating deployment of EV charging infrastructure in a manner that: (a) is equitable — reaching presently underserved market segments; (b) is complementary to a competitive EV charging market; (c) ensures that new load is robustly managed; (d) leverages limited ratepayer dollars as far as possible; (e) properly incentivizes utilities to make effective investments; and (f) delivers a positive experience to site hosts and EV drivers."[29]

EDF-CUB also identified a series of goals for utility transportation electrification plans, which we broadly support, as well. We recommend that the Commission establish clear, consistent criteria for evaluating proposals by regulated utilities. Per our initial recommendations, we suggest that Commission criteria:

> "[M]aintain customer choice, encourage innovation, and stimulate competition; leverage matching payments from site hosts, whenever possible; support site-host access and control over pricing; avoid island networks and ensure open access for EV drivers; support equitable access to electric transportation options; and encourage smart charging behavior to enable widespread grid benefits for investments in EV charging."[30]

C. It is appropriate to focus on underserved communities and policy issues

[26] SC-NRDC at 16
[27] Tesla at 11
[28] EDF-CUB at
[29] SC-NRDC at 15
[30] ChargePoint at 10-15

Stakeholders broadly agreed on the need to ensure equitable access to transportation electrification.[31] We noted in our initial comments that underserved communities "can often benefit the most from transportation electrification through reduced emissions and increased transportation options."[32] We join the aforementioned stakeholders in urging the Commission to ensure that utility programs focus on widespread, equitable access to electric transportation.

D. Publicly available EVSE should have open access and leverage open standards

Several stakeholders addressed the accessibility of and communication protocols used by EV charging stations.[33] ChargePoint strongly supports "Open Access" requirements for all publicly-available EVSE and utilizing open standards in EV charging network services, such as OpenADR to facilitate utility load management. We also strongly support advancing charging network peer-to-peer roaming to allow EV drivers to use an app or RFID card from one charging network to access charging stations on another network.

As we described in our initial comments, EV charging network service providers use communications protocols to carry out different types of network services. It is essential that site hosts have the ability to select the most appropriate hardware *and* software solutions to meet their specific needs, which will be met in different ways by different network service providers. While some site hosts might be well served with simple "on/off" commands, others may need to have the ability set different pricing schedules for employees and visitors or to leverage advanced load shedding functionality.

Site host choice in both hardware and network services are equally essential to spur innovation in charging solutions, drive down costs, and meet unique site host and driver needs. Tesla observed that "any program requirements for charging standards should not be overly prescriptive... it is inappropriate to dictate the types of investments, technologies or business models that private companies should adopt on their side of the meter."[34] We agree and recommend that the Commission avoid programs or policies that might limit customers to a one-size-fits-all solution.

III. Conclusion

ChargePoint thanks the Commission for the opportunity to provide these reply comments. We look forward to continue working with the Commission and other stakeholders to achieve Minnesota's transportation electrification goals by reducing barriers to sustainable and scalable growth in the competitive EV charging market.

[31] *See* EDF-CUB at 2; SC-NRDC at 9; ATE at 7; Tesla at 13; etc.

[32] ChargePoint at 13.

[33] See, e.g., UCS at 6; EDF-CUB at 2; Siemens at 5;

[34] Tesla at 14-15